

WEDNESDAY, AUGUST 31st, 1881.

The President, J. C. Cox, M.D., F.L.S., &c., in the Chair.

MEMBER ELECTED.

Mr. J. G. Griffin, C.E., of Tamworth.

DONATIONS.

Museum D'Histoire Naturelle Paris, annual reports for 1879-80

From Friedlander and Sons, Bibliotheca Historico-Naturalis et Mathematica.

Journal of the Royal Microscopical Society of London, 1881.

Royal Society of Edinburgh, Proceedings, Vol. X.

Zoological Station, Naples, Trans. Vol. II., part 4.

Royal Academy of Sciences, Amsterdam, Trans. Nat. Hist. Branch, 2 series, Vol. XV., and Annual Report for 1879.

Royal Society of New South Wales, List of Exchanges and Presentations, 1881.

PAPERS READ.

ON THE PLANTS OF NEW SOUTH WALES—No. IV.

BY THE REV. DR. WOOLLS, D.D., F.L.S., &c.

The Sub-class II., Monopetalæ, is very extensive, and the species described in the *Flora Australiensis* range from Vol. III., p. 386 to Vol. V., p. 142. So far as the limits of these species are yet recorded, the following is the approximate result :

	Orders.	Genera.	Species.
Victoria	25 ..	142 ..	326
New South Wales	30 ..	201 ..	654
Queensland ..	28 ..	239 ..	596

When the floras of particular districts in Eastern Australia, are more carefully observed and the limits of indigenous plants

are better understood, these numbers (especially those for Queensland) will need considerable revision. For whilst there is reason to believe that some plants now regarded as Victorian will be found common to new South Wales and Victoria, so, on the other hand, some known only from the Southern parts of Queensland, will be found to extend to New South Wales, and *vice versa*. The information, however, which has been afforded by the *Flora Australiensis* and the *Fragmenta Phytographiæ Australiæ*, is highly useful in enabling us to compare the floras of the respective colonies, and to form a tolerably correct idea of the peculiarities of each. It appears that the Monopetalous orders not represented in Queensland are the *Ericaceæ*, common to Victoria and New South Wales; the *Orobanchaceæ* extending from Victoria and South Australia to the Western Coast; and the *Selaginæ* of West Australia. The orders not occurring in Victoria are the *Plumbagineæ*, *Sapotaceæ*, *Ebenaceæ*, *Styraceæ*, *Hydrophyllaceæ*, *Acanthaceæ*, and *Pedaliaceæ*. In this part of the world, the Epacrids usually take the place of Heaths, but *Wittsteinia vacciniacea*, (F.v.M.) and *Gaultheria hispida* (R. Br.) are found in the Southern parts of the Eastern Colonies, the former in Victoria, and the latter in New South Wales and Victoria. The limited range and number of Heathworts in Australia and Tasmania may be regarded as indicating the relics of a Flora which once connected the vegetation of Australia with that of countries not separated from it by the ocean. For the genus *Gaultheria* spreads not only over the mountainous regions of America and Tropical Asia, but it extends through the Antarctic Islands and New Zealand to the summits of the mountains at the head of the Bellinger and the Southern mountains of New South Wales. In Queensland, the *Compositæ*, *Apocynæ*, *Asclepiadææ*, *Rubiaceæ*, *Convolvulaceæ*, and *Solanææ*, furnish a large number of species respectively; whilst the *Acanthaceæ*, which in new South Wales are but poorly represented (*Ruellia australis*, (R. Br.) and *Eranthemum variabile*, (R. Br.)

being the only species widely distributed), are known to have at least 18 species in Queensland, of which *Graptophyllum Earlii*, (F.v.M.) is a beautiful shrub rising sometimes to the height of 15 feet. The most extensive order of the Monopetalæ in New South Wales is that of the Composites, comprehending 52 genera and upwards of 200 species, of which *Olearia argophylla* (F.v.M.) is perhaps the most remarkable. Mr. Bentham reckons the whole number of Australian Composites at 500, and he has arranged them in 88 genera. There is, however, great difficulty in determining whether some species, common to other parts of the world, are indigenous or not. After having carefully considered the subject, I am of opinion that the following have been introduced :

1. *Centaurea Melitensis*, (Linn.)
2. *Centaurea calcitrapa*, (Linn.)
3. *Carthamnus tinctorius*, (Linn.)
4. *Onopordon acanthium*, (Linn.)
5. *Carduus marianus*, (Linn.)
6. *Eupatorium cassabinum*, (Linn.)
7. *Erigeron canadensis*, (Linn.)
8. *Erigeron linifolius*, (Willd.)
9. *Xanthium spinosum*, (Linn.)
10. *Tolpis barbata*, (Willd.)
11. *Siegesbeckia orientalis*, (Linn.)
12. *Galinsogea parviflora*, (Cav.)
13. *Bidens pilosa*, (Linn.)
14. *Tagetes glandulifera*, (Schranck.)
15. *Anthemis cotula*, (Linn.)
16. *Chrysanthemum segetum*, (Linn.)
17. *Chrysanthemum Parthenium*, (Pers.)
18. *Soliva anthemifolia*, (R. Br.)
19. *Gnaphalium luteo-album*, (Linn.)
20. *Gnaphalium purpureum*, (Thunb.)
21. *Senecio scandens*, (DC.)

22. *Cryptostemma calendulacea*, (R. Br.)
23. *Hypochæris glabra*, (Linn.)
24. *Wedelia hespida*, (Kth.)
25. *Pieris hieracioides*, (Linn.)
26. *Crepis japonica*, (Benth.)
27. *Sonchus oleraceus*, (Linn.)
28. *Cichorium Intybus*, (Linn.)
29. *Leontodon hirtus*, (Linn.)
30. *Tragopogon porrifolius*, (Linn.)
31. *Taraxacum dens-leonis*, (Desp.)

The whole number of introduced plants belonging to the Monopetalæ may be reckoned 58, and of these it appears that more than half are Composites, some of which, owing to the facility with which their seeds are wafted in all directions, have increased to a great extent. The most troublesome to the agriculturists on the banks of the Hawkesbury are *Tagetes* and *Wedelia*, for they spread over the cultivated flats and injure the crops of cereals. *Carduus* and *Onopordon*, which, in other parts of the colony, have taken possession of alluvial soil and impeded the progress of cultivation, have made but little advancement in the same locality. Amongst the Monopetalæ of Australia, there are some very interesting plants, such as the species of *Stylidium* with their elastic column, the *Goodenovieæ* with their curious indusium, and the order of the Epacrids, remarkable for their limited distribution out of Australia and their separation from Heathworts by the opening of the anthers. Of the Epacrids, 65 species are indigenous in New South Wales, one of which attains the dimensions of a tree (*Trochocarpa laurina*); and two (*Epacris purpurascens* and *E. microphylla*) are amongst the few Australian shrubs which have been found with double flowers in a wild state. Some species also afford small edible fruits; but of the Monopetalæ, *Achras australis*, *Cargillia australis*, and some kinds of *Solanum* (of which New South Wales has 22 species) are more appreciated in this respect, especially *S. esuriæ* and *S. vescum*.

The gigantic climbers *Lyonsia straminea* and *reticulata* of the Apocynæ are remarkable for finding their way to the summits of lofty trees, whilst several species of the Gentian Family are likely to be utilised as medicinal plants. Nor should I omit to mention in the same category *Duboisia myoporoides* and *D. Hopwoodii*, which have lately elicited some valuable correspondence in these colonies, particularly from Dr. Bancroft of Brisbane. Perhaps I may be permitted to mention, that my excellent friend the late Mrs. Calvert called my attention to the properties of *D. myoporoides* some years since, and that in my "*Contribution to the Flora of Australia*," p. 178, I alluded to the fact, that from this plant the blacks were in the habit of preparing some intoxicating beverage. Of the Myoporineæ, the genus *Eremophila* is limited to Australia, and several species are worthy of cultivation for the beauty of their flowers. *E. Mitchellii* is the Sandal-wood of the interior, and *Myoporum Cunninghamii* (which Mr. Bentham regards as a narrow-leaved variety of *M. acuminatum*) extends from the interior of Queensland to the borders of Victoria. The Labiates of New South Wales are limited to 11 genera, including 41 species, of which 22 belong to the genus *Prostanthera*, which so far deviates from the ordinary type of Labiates as to afford in *P. lasianthus* the largest known plant of the order, with showy flowers and strongly scented glands. Mr. Bentham states that the genus is limited to Australia, and that only two species are natives of Western Australia. Of the herbaceous species of the order, the Mints (*Mentha australis*, and *M. satureoides*) afford a highly scented volatile oil, whilst of the introduced species, *Marrubium vulgare* and *Stachys arvensis* have established themselves here and there throughout the colony in waste places and cultivated ground. The Verbenaceæ, like the preceding order, comprehend both trees and herbs, for whilst *Clerodendron*, *Gmelina*, *Vitex* and *Avicennia* may be reckoned amongst the former, many of the species are of the latter class. The common *Verbena officinalis*, is looked upon as being indigenous, but *V. Bonariensis*,

which is regarded as a troublesome weed, not only in the county of Cumberland, but beyond the Dividing Range, seems to be a plant of foreign origin.

In concluding this brief notice of the Monopetalæ, it may be seen that the species in New South Wales are far more numerous than those of the Thalamifloræ or Discifloræ, whilst they exceed the recorded species of Calycifloræ by more than 100. The whole amount of these grand divisions will probably be more than 1,200, whilst that of the introduced plants is upwards of 100.

ON THE OCCURRENCE OF *Pseudophycis breviusculus*, RICHARDSON,
IN PORT JACKSON.

BY E. P. RAMSAY, F.L.S., C.M.Z.S., &c.

During a recent dredging excursion in Port Jackson I obtained from the interior of a large shell of *Dolium variegatum*, a fine specimen of a *Pseudophycis*, which appears to belong to the *Lota breviusculus* of Richardson; when alive this fish was of an olive brown tint, slightly greenish about the head, and of a pinkish hue on the belly; the whole of the fish was covered by a thick mucous. In length it is about 6 inches, greatest height 2 inches. There are nine (9) rays in the first dorsal, and from 47-48 in the second, the pectoral fin is as long as the distance from its base to the centre of the orbit, the maxillary reaches to the posterior margin of the orbit, the longest ventral ray equals the distance between the anterior margin and the extremity of the operculum; the height of the body between the vent and the last (ninth) ray of the first dorsal, equals the distance between the lower margin of the base of the pectoral, and the end of the snout. In all other respects this specimen agrees with the description of *Lota breviuscula* of Richardson, under which species I prefer to retain it for the present.
